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QUARTERLY DATA SUMMARY
JANUARY 1991
GROUNDWATER SAMPLING
GENERAL ELECTRIC SPOKANE SITE

Contract No. C0089007

May 15, 1991

Prepared By:

ECOLOGY AND ENVIRONMENT, INC.
101 Yesler Way
Suite 600
Seattle, Washington 98104

Prepared For:

WASHINGTON STATE DEPARTMENT OF ECOLOGY
Toxics Cleanup Program

ecology and environment, inc.
101 YESLER WAY, SEATTLE, WASHINGTON, 98104, TEL. 206/624-9537
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ABSTRACT

The General Electric Company (GE), under an Agreed Order with the Washington State Department of Ecology (Ecology), is currently conducting Phase 5 of a remedial investigation (RI) at the GE Apparatus Service Shop site in Spokane, Washington. For Phase 5 of the RI, GE contracted Golder Associates, Inc. (Golder) to conduct groundwater sampling of 17 monitoring wells at the site.

Under contract to Ecology, Ecology and Environment, Inc. (E & E) has been assigned to collect groundwater split samples from the monitoring wells during four continuous quarterly sampling events.

As specified in the E & E Quality Assurance Project Plan, each split sample is to be sent to Ecology's Manchester Laboratory for polychlorinated biphenyl (PCB) analyses. Approved by Ecology, the modified analytical methodology incorporates low quantitation limits of 0.05 µg/L for the PCB analytes.

This report summarizes the analytical results for the second quarterly sampling event performed on January 10 through 16, 1991. For the quarterly sampling, E & E collected a total of 22 samples for PCB analysis and also chlorinated hydrocarbons screening analysis. In addition, all water quality field test data collected by Golder were recorded by E & E.

Analytical results for the January sampling event identified PCBs in four wells (MW-4, -5, -8 and -11). Concentrations ranged from an estimated 0.085 µg/L in MW-4 to 6.54 µg/L in MW-8. The presence of chlorinated hydrocarbons also were detected in the same four monitoring wells.

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1. INTRODUCTION

1.1 PROJECT HISTORY

Ecology and Environment, Inc. (E & E), under Contract No. C0089007 to the Washington State Department of Ecology (Ecology), was issued Work Assignment No. 11 for the performance of groundwater sampling at the General Electric Company (GE) Apparatus Service Shop located in Spokane, Washington. Ecology requested that E & E collect groundwater split samples from monitoring wells at the GE site. GE, under an Agreed Order, is currently conducting Phase 5 of a potentially liable persons remedial investigation (RI). GE's contractor, Golder Associates (Golder), is conducting groundwater sampling and testing work as part of that RI.

1.2 PROJECT OBJECTIVES

The objective of this work assignment, as defined by the October 11, 1990 E & E Groundwater Sampling Work Plan (E & E Work Plan) (E & E 1990), is the collection of quarterly split samples from the site groundwater monitoring network, over a 1-year period. The split samples are sent to Ecology's Manchester Laboratory (Manchester) for polychlorinated biphenyl (PCB) analysis. The selected sampling methodology incorporates special low quantitation limit analysis of 0.05 µg/L for PCBs. The selected analytical methodologies were designed to ensure that the data will be defensible and support PCB-contaminant transport and distribution assessment. In addition to the PCB analysis, Manchester has also been instructed to conduct chlorinated hydrocarbon screening analysis of the samples. E & E also was tasked to provide general field activity monitoring during groundwater sampling.

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2. SITE DESCRIPTION AND HISTORY

2.1 SITE LOCATION

The GE Spokane site is located at 4323 East Mission Avenue, Spokane, Washington (Figure 2-1). The site is located in a commercial and industrial area of east Spokane in the SW1/4 SW1/4 section 14, Township 25 N., Range 43 E. of Spokane County (USGS 1973).

2.2 OVERVIEW OF PAST SITE OPERATIONS

GE operated an industrial apparatus service shop at the site from 1961 to 1980 (see Figure 2-2) (Golder 1990). An initial site inspection of the service shop premises conducted by Ecology on October 15, 1985, revealed the presence of PCBs and metals in site soils and sump sediments. As a result of these findings, several site investigations have been conducted by GE contractors to evaluate the extent of contamination in facility buildings, related structures, surface and subsurface soils, and underlying groundwater.

The service shop was used for repair of industrial and utility equipment, including transformers. Until late 1976, PCB fluids were stored and used on site. Sumps situated within the service shop complex were used to collect storm runoff, wastewater, and/or liquid overflow from other sumps. Between 1976 and 1980, only non-PCB (less than 50 ppm) transformers were serviced at this facility (Ecology 1986).

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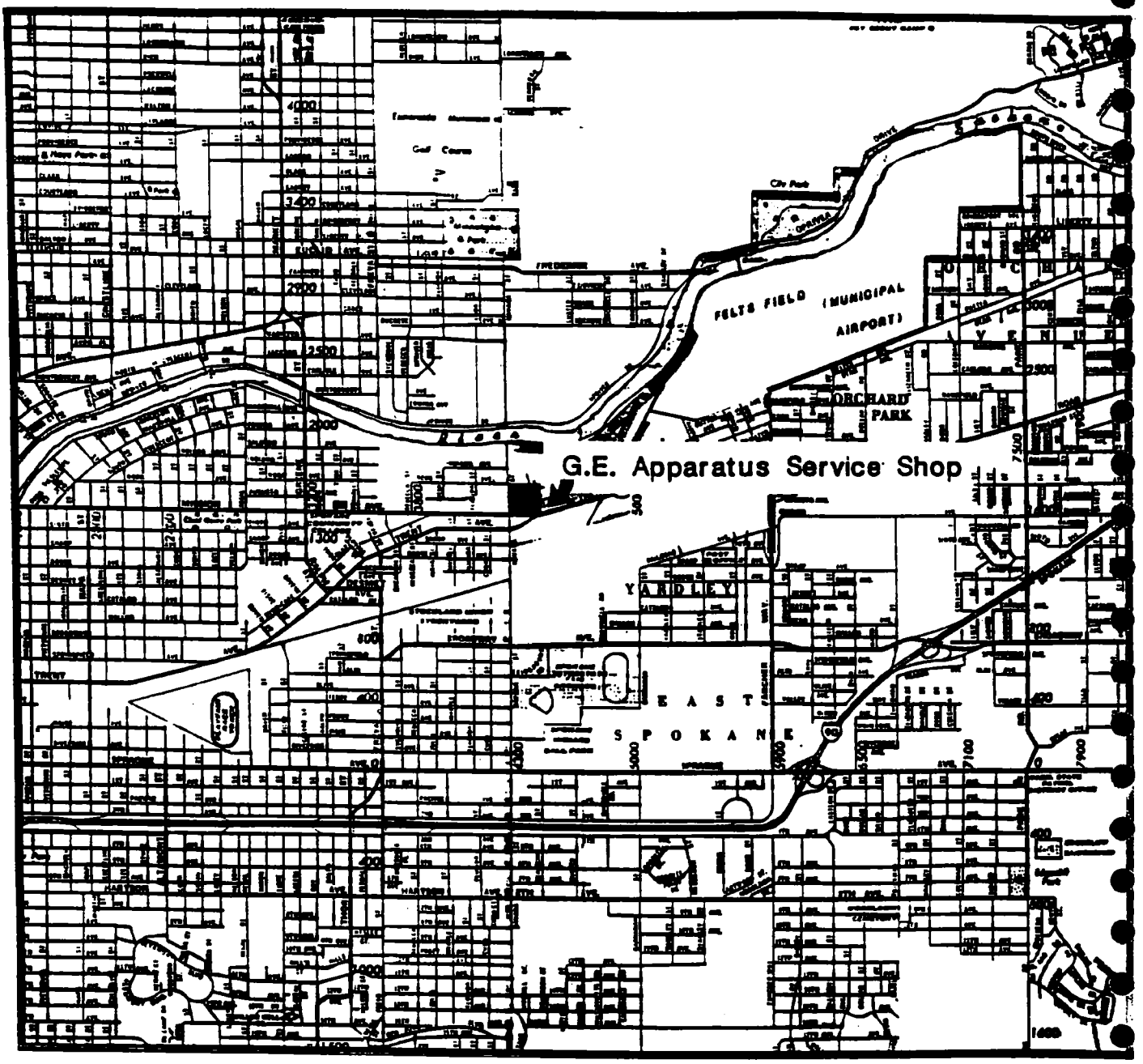

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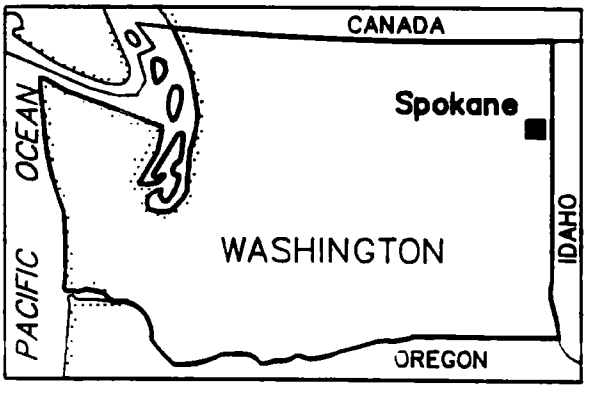

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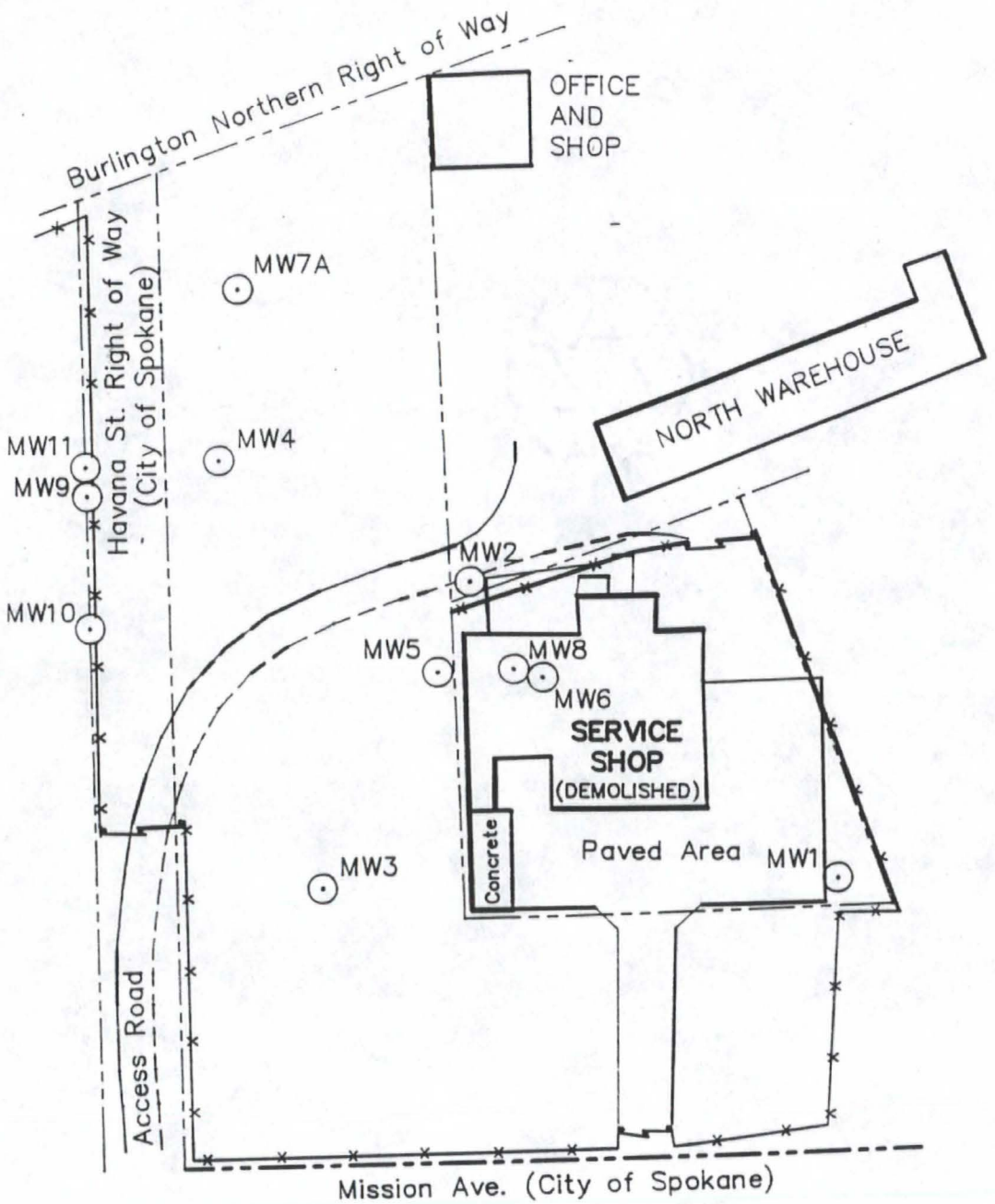
JS	WB8060

G.E. APPARATUS SERVICE SHOP
SPOKANE, WASHINGTON

FIGURE 2-1
LOCATION MAP

DATE ISSUED	C.A.D. FILE NO.	DRAWING NO.	REV.
2/4/91	WB8060	1	1



0 80 160

FEET

N

LEGEND

- ⊙ EXISTING MONITORING WELL
- — — — PROPERTY BOUNDARY
- -x—x- CHAIN LINK FENCE

BASE MAP REFERENCE: GOLDER ASSOCIATES (GAI) 1990

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DRAWN BY D.W		PROJECT WB8060	
G.E. APPARATUS SERVICE SHOP SPOKANE, WASHINGTON			
FIGURE 2-2 SITE MAP			
DATE ISSUED 3-25-91	C.A.D. FILE NO.	DRAWING NO. 0236SM.DWG	REV. 1

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3. PROJECT REQUIREMENTS FOR WATER SAMPLING AND TESTING PROGRAM

The overall project requirements have been previously described in the E & E Work Plan. The quarterly sampling tasks require concurrent collection of groundwater split samples with Golder at 17 monitoring wells, as part of E & E's technical support to Ecology. Samples are collected pursuant to specific policies and objectives previously defined in the E & E Quality Assurance Project Plan, Sampling and Analysis Plan, and Site Safety Plan.

All split samples are submitted to Ecology's Manchester Laboratory for low quantitation limit (0.05 µg/L) analysis of PCBs. For the PCB results, formal data validation is performed by E & E. In addition, chlorinated benzenes are also analyzed. Chlorinated benzenes screening analysis was not part of the original sampling and analysis plan. Chlorinated hydrocarbon peaks were detected during routine PCB analysis of the samples from the first quarterly sampling event. As a result of this finding, Ecology authorized Manchester to screen for the chlorinated benzenes in addition to the PCB analysis. It was decided that the additional data would be beneficial in tracing potential migration of PCBs and associated contaminants. Method specific analytical quality control measures are not fully evaluated for the chlorinated hydrocarbon screening, resulting in tentative identifications of the compounds detected.

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4. SUMMARY OF PREVIOUS ANALYTICAL RESULTS

From October 12 through October 17, 1990, the first quarterly groundwater split samples were collected. Analytical results for PCB Aroclor and chlorinated hydrocarbon analyses were presented in the first quarterly data summary report dated February 11, 1991. During the October 1990 sampling event, PCBs and chlorinated hydrocarbons were identified in four wells; MW-4, MW-5, MW-8, and MW-11. Table 4-1 and 4-2 summarize detected concentrations of PCBs and chlorinated hydrocarbons from that sampling event.

Table 4-1

**SUMMARY OF ANALYTICAL RESULTS FOR DETECTED PCB CONCENTRATIONS
GENERAL ELECTRIC COMPANY SPOKANE SITE
SPOKANE, WASHINGTON
October 1990
(µg/L)**

	Aroclor	
Well Location	1254	1260
MW-4	0.029 NJ	
MW-5	2.63	0.62
MW-8		140
MW-11	0.16	

NJ - Indicates that the analyte was tentatively identified and the associated numerical value may not have been consistent with the amount actually present in the environmental sample.

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Table 4-2

**SUMMARY OF ANALYTICAL RESULTS FOR
DETECTED CHLORINATED HYDROCARBONS
GENERAL ELECTRIC COMPANY SPOKANE SITE
SPOKANE, WASHINGTON
October 1990
(µg/L)**

Chlorinated Hydrocarbons*	MW-4	MW-5	MW-8	MW-11
Hexachlorobenzene	0.044			
1,2,4,5-Tetrachlorobenzene		0.13		
1,2,3,4-Tetrachlorobenzene	0.033	4.5	0.47	0.31
1,2,3,5-Tetrachlorobenzene	0.013	0.22		0.017
1,2,4-Trichlorobenzene	0.021			
1,3,5-Trichlorobenzene	0.021			
1,2,3-Trichlorobenzene	0.021	0.19		0.076
Pentachlorobenzene	0.023	3.5	1.3	0.14

* These data are derived from screening analyses only. All results should be considered as tentatively identified at estimated concentrations.

5. CURRENT ANALYTICAL RESULTS

The second quarterly groundwater split sampling event was conducted from January 10 through January 1991. As in the first sampling event, a total of 22 well and quality assurance samples were collected for analysis of PCBs and chlorinated hydrocarbons. Again, the PCB analytical method incorporated the low quantitation limit of 0.05 µg/L, and the sample analysis was performed by the Manchester Laboratory.

Data validation for the project consisted of a quality assurance review of the samples analyzed. Laboratory performance was assessed based on applicable Manchester procedures as detailed in the E & E work plan. PCB Method Quantitation Limits (MQLs) were consistently below the proposed limit of 0.05 µg/L. MQLs as low as 0.020 µg/L were reported.

The samples from MW-4 and MW-5 (for Aroclor 1254) and for MW-8 all lacked a daily standard to verify the initial calibration for the analytical procedure, resulting in estimated concentration values. In addition, for samples MW-13, MW-14, MW-16, MW-17, and the trip blank instrument calibration results were outside quality control limits for Aroclor 1260. Finally, for sample MW-16, surrogate spike recovery results were outside the quality control limits. As a result, MQLs, or reported concentrations for these samples were qualified to identify those values as estimated. The E & E data validation report for the January 1991 analysis is presented in Appendix A.

The January 1991 analytical results for PCB Aroclor and chlorinated hydrocarbons are presented in Table 5-1 and 5-2. Associated groundwater field water quality parameter measurements are found in Table 5-3. Monitoring well completion and elevation details are listed in Table 5-4. Figure 5-1 shows the locations of the site monitoring wells and presents the associated PCB concentrations detected. As in the first quarterly sample data, four wells, MW-4, MW-5, MW-8, and MW-11, were identified as having PCB concentrations. Specific Aroclors and

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Table 5-1

SUMMARY OF ANALYTICAL RESULTS FOR PCBs
GENERAL ELECTRIC COMPANY SPOKANE SITE
SPOKANE, WASHINGTON
January 1991
(µg/L)

	Arochlor						
Well Location	1016	1221	1232	1242	1248	1254	1260
MW-1	0.023 U	0.023 U	0.023 U	0.023 U	0.023 U	0.023 U	0.023 U
MW-2	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U
MW-3	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U
MW-4	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.085 J	0.021 U
MW-5	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	2.4 J	0.42
MW-6	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U
MW-7A	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U
MW-8	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	6.54 J
MW-8 Duplicate	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	6.01 J
MW-9U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
MW-9L	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U
MW-10	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U
MW-11	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.32	0.12
MW-11 Duplicate	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.28	0.11
MW-12	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U
MW-13	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 UJ
MW-14	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 UJ
MW-15	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U
MW-16	0.021 UJ	0.021 UJ	0.021 UJ	0.021 UJ	0.021 UJ	0.021 UJ	0.021 UJ
MW-17	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 UJ
Trip Blank	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.022 UJ
Field Blank	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U

U - The material was analyzed for, but was not detected. The associated numerical value is a quantitation limit, adjusted for sample volume, extraction volume, and sample dilution.

J - The analyte was positively identified but the associated numerical value may not be consistent with the amount actually present in the environmental sample.

Underline - Positive PCB identification.

Table 5-2

SUMMARY OF ANALYTICAL RESULTS FOR
SELECTED CHLORINATED BENEZENES
GENERAL ELECTRIC COMPANY SPOKANE SITE
SPOKANE, WASHINGTON
January 1991
(µg/L)

Chlorinated Hydrocarbons*	MW-4	MW-5	MW-8	MW-10	MW-11	MW-15
1,2-Dichlorobenzene	0.10 U	0.96 U	0.10 U (0.10 U)	0.10 U	0.10 U (0.10 U)	0.10 U
1,3-Dichlorobenzene	0.10 U	0.96 U	0.10 U (0.10 U)	0.10 U	0.10 U (0.10 U)	0.10 U
1,4-Dichlorobenzene	0.10 U	0.96 U	0.10 U (0.10 U)	0.10 U	0.10 U (0.10 U)	0.10 U
Hexachlorobenzene	0.005 U	0.048U	0.014 (0.011)	0.005 U	0.005 U (0.005 U)	0.005 U
1,2,4,5-Tetrachlorobenzene	0.005	0.068	0.005 U (0.005 U)	0.005 U	0.020 (0.024)	0.005 U
1,2,3,4-Tetrachlorobenzene	0.24	2.3	0.068 (0.052)	0.009	0.14 (0.43)	0.005 U
1,2,3,5-Tetrachlorobenzene	0.013	0.13	0.006 (0.005)	0.005 U	0.014 (0.016)	0.005 U
1,2,4-Trichlorobenzene	0.005 U	0.048 U	0.005 U (0.005 U)	0.005 U	0.005U (0.005U)	0.005 U
1,3,5-Trichlorobenzene	0.005 U	0.048 U	0.005 U (0.005 U)	0.005 U	0.005U (0.005U)	0.005 U
1,2,3-Trichlorobenzene	0.005 U	0.048 U	0.005 U (0.005 U)	0.005 U	0.010 (0.011)	0.005 U
Pentachlorobenzene	0.17	1.9	0.31 (0.32)	0.005	0.14/0.16	0.005 U

U - The material was analyzed for, but was not detected. The associated numerical value is a quantitation limit, adjusted for sample volume, extraction volume, and sample dilution.

() Duplicate sample result.

Underline - Positive chlorinated hydrocarbon identification.

* These data are derived from screening analyses only. All results should be considered as tentatively identified at estimated concentrations.

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Table 5-3

GROUNDWATER GEOPHYSICAL DATA
GENERAL ELECTRIC COMPANY SPOKANE SITE
SPOKANE, WASHINGTON
January 1991

Well Location	Sample Date	Approximate Purge Volume (gallons)	pH	Temperature (°C)	Conductivity (μS)	Turbidity (NTU)	Dissolved Oxygen (mg/L)
MW-1	1/10/91	90	7.43	9	270	0.58	10.0
MW-2	1/11/91	90	7.88	8	290	0.95	8.0
MW-3	1/10/91	75	8.09	8	260	0.62	7.6
MW-4	1/13/91	53	7.93	9	270	0.73	6.2
MW-5	1/11/91	55	7.65	9	290	0.80	8.4
MW-6	1/12/91	63	7.89	8	260	0.50	6.2
MW-7A	1/13/91	70	7.88	9	250	0.75	6.4
MW-8	1/12/91	120	7.86	9	280	0.98	6.2
MW-8U Duplicate[a]	1/12/91	--	--	--	--	--	--
MW-9U	1/15/91	65	7.91	8	270	0.66	5.8
MW-9L	1/15/91	105	8.37	9	250	0.56	5.0
MW-10	1/14/91	67	8.25	9	250	0.65	6.4
MW-11	1/13/91	77	7.86	9	270	0.69	5.6
MW-11 Duplicate[a]	1/13/91	--	--	--	--	--	--
MW-12	1/16/91	70	7.72	8	300	0.45	5.5
MW-13	1/17/91	63	7.80	9	290	0.90	5.2
MW-14	1/16/91	72	7.75	8	260	0.38	5.2
MW-15 MS/MSD[b]	1/16/91	60	7.47	8	270	0.40	5.2
MW-16	1/17/91	65	7.68	9	290	0.45	5.8
MW-17	1/17/91	201	7.78	9	260	0.48	5.0
Trip Blank	1/08/91	--	--	--	--	--	--
Field Blank	1/13/91	--	--	--	--	--	--

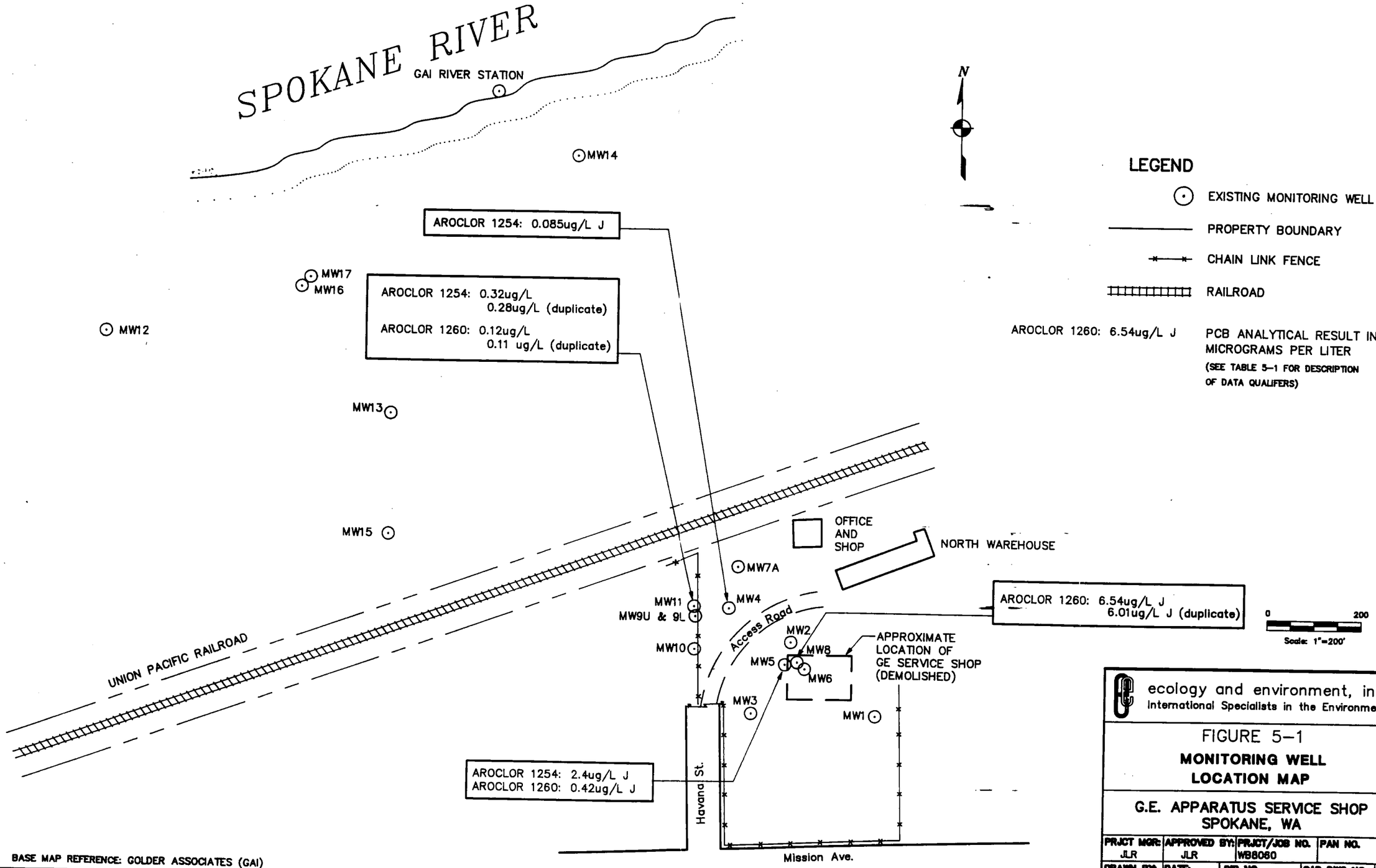
-- Not applicable
NTU - Nephelometric Turbidity Units
MS/MSD - Matrix spike/matrix spike duplicate
a - Field duplicate sample.
b - Sample included collection of additional volume for matrix spike and matrix spike duplicate analytical requirements.

Table 5-4

GROUNDWATER MONITORING WELL INSTALLATION SPECIFICATIONS AND ELEVATION MEASUREMENTS
GENERAL ELECTRIC COMPANY SPOKANE SITE
SPOKANE, WASHINGTON
January 1991

Well Location	Elevation of Top of PVC Pipe (ft)	Elevation of Screen Interval (ft)	Completion Depth (Below Ground Surface) (ft)	Elevation of Water Level (ft)a
MW-1	1,959.13	1,883.15 - 1,893.15	76.0	(1,892.55)
MW-2	1,956.46	1,883.42 - 1,893.42	73.0	1,892.28 (1,892.46)
MW-3	1,957.96	1,881.80 - 1,891.80	76.2	1,892.22 (1,892.29)
MW-4	1,953.93	1,881.20 - 1,891.20	72.7	1,892.07 (1,892.05)
MW-5	1,957.14	1,882.20 - 1,892.20	74.9	1,892.35 (1,892.40)
MW-6	1,955.56	1,838.63 - 1,853.63	110.9	1,892.30 (1,892.35)
MW-7A	1,952.80	1,879.91 - 1,894.91	72.9	1,891.96 (1,891.89)
MW-8	1,956.12	1,878.45 - 1,893.45	77.7	1,892.46 (1,894.54)
MW-9U	1,952.00	1,831.07 - 1,836.07	120.9	1,892.20 (1,891.94)
MW-9L	1,952.02	1,792.67 - 1,802.67	159.4	1,892.27 (1,892.02)
MW-10	1,954.93	1,891.05 - 1,906.05	78.9	1,892.18 (1,892.03)
MW-11	1,951.94	1,875.16 - 1,890.16	76.8	1,892.07 (1,892.04)
MW-12	1,922.25	1,876.25 - 1,891.25	46.0	1,890.99 (1,891.60)
MW-13	1,922.39	1,876.96 - 1,891.96	45.4	1,891.74 (1,890.62)
MW-14	1,911.87	1,877.68 - 1,892.68	34.2	1,891.53 (1,892.77)
MW-15	1,924.74	1,878.04 - 1,893.04	46.7	1,891.85 (1,891.24)
MW-16	1,926.95	1,877.65 - 1,892.65	49.3	1,891.49 (1,890.28)
MW-17	1,926.97	1,809.19 - 1,819.19	117.8	1,891.46 (1,890.25)

a - Elevations are calculated from depth to water level data obtained by Golder Assiciates on various days during the sampling period (January 10 to 17, 1991). Elevations in parenthesis obtained on January 8 and 9, 1991. All elevations calculated from PVC pipe reference point.



BASE MAP REFERENCE: GOLDER ASSOCIATES (GAI)

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FIGURE 5-1

MONITORING WELL LOCATION MAP

G.E. APPARATUS SERVICE SHOP SPOKANE, WA

PRJCT MGR:	APPROVED BY:	PRJCT/JOB NO.	PAN NO.
JLR	JLR	WB8060	

DRAWN BY:	DATE:	DIR NO.	CAD DWG NO.	REV.
JAO	05-14-91	CORP\WB8060	0235SM.DWG	2

concentrations are shown in Table 5-1. MW-8 had the highest Aroclor concentration at 6.54 µg/L. Chlorinated benzenes were also detected in the same four monitoring wells. The highest concentration was detected at MW-5. The compound was 1,2,3,4-tetrachlorobenzene at an estimated concentration of 2.3 µg/L.

6. DISCUSSION

6.1 JANUARY 1991 QUARTERLY SAMPLING EVENT

For the second quarterly sampling event, PCBs and chlorinated benzenes were again detected at four well locations: MW-4, MW-5, MW-8, and MW-11. The detectable PCB concentrations ranged from 0.085 to 6.54 µg/L. Blind duplicate samples for MW-8 reported Aroclor 1260 concentrations of 6.01 µg/L and 6.54 µg/L. Duplicate samples for MW-11 found Aroclor 1254 concentrations of 0.28 and 0.32 µg/L, and Aroclor 1260 concentrations of 0.11 and 0.12 µg/L. Chlorinated hydrocarbon concentrations ranged from an estimated 0.005 to 2.3 µg/L. The two highest estimated chlorinated benzene concentrations were from MW-5. Tables 5-1 and 5-2 presented the PCB and chlorinated benzene analytical results, respectively. Laboratory data summary sheets are presented with the data validation report in Appendix A. From the data it can be generally stated that monitoring wells MW-12 through MW-17 had no detectable concentrations of PCBs, whereas four wells nearer the apparatus shop did. A qualitative review of the groundwater quality geophysical field parameters showed reasonable values for pH, temperature, conductivity, turbidity, and dissolved oxygen.

6.2 COMPARISON OF QUARTERLY SAMPLING RESULTS COLLECTED TO DATE

As determined in both the first and second sampling events, locations MW-4, MW-5, MW-8, and MW-11 had detectable PCB concentrations. In general, the second event PCB concentrations, for MW-4, MW-5, and MW-11 are similar to the first event. Notable exceptions are that both Aroclor 1260 and 1254 were detected in MW-11 for the second sampling event, whereas only Aroclor 1254 was found by the first study. The detected Aroclor 1260 concentration for MW-8 decreased from 140 µg/L, to 6.54 µg/L from the first to the second sampling event. The first quarterly report concluded that wells installed during the fall of 1990

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(MW-12 through MW-17) had no detectable concentrations of PCBs, whereas four of the wells nearer the apparatus shop did. The same general statement is valid for the second sampling event.

Similarly, chlorinated hydrocarbons were detected in MW-4, MW-5, MW-8, and MW-11 in the first and second quarterly sampling events. The chlorinated benzene compound with the greatest concentrations from both sampling events was 1,2,3,4-tetrachlorobenzene detected in MW-5. The concentration decreased from from 4.5 µg/L initially, to 2.3 ug/L in the second sampling event.

For groundwater water quality field parameter data, an increase in pH was noted from the first to second sampling event. The pH meter did not stabilize consistently in the first sampling event, therefore, the pH values of the second sampling effort are considered more acceptable. The high turbidity reported previously in MW-8 (7.5 NTU), was decreased to 0.98 NTU during the January 1991 sample collection. Also, for all the wells, the groundwater water table elevation rose approximately 3 to 4 feet relative to the October 1990 sampling event due to seasonal response.

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Appendix A

VALIDATION OF PCB AND CHLORINATED HYDROCARBON DATA

ecology and environment, inc.

101 YESLER WAY, SEATTLE, WASHINGTON, 98104, TEL. 206/624-9537

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MEMORANDUM

DATE: April 8, 1991

TO: Brad Ewy, Project Officer, Ecology, Olympia

THRU: Peter Jowise, Program Manager, E & E, Seattle

FROM: David A. Ikeda, Chemist, E & E, Seattle
Lila Transue, Senior Chemist, E & E, Seattle

SUBJ: Validation of Polychlorinated Biphenyl and Chlorinated Benzene Data
General Electric, Spokane, Washington

REF: Contract Number C0089007
Work Assignment Number WB8050

CC: John L. Roland, Project Manager, E & E, Seattle
Dick Huntamer, Department of Ecology, Manchester Laboratory
Robert Carrell, Department of Ecology, Manchester Laboratory

The Quality Assurance (QA) review of 22 samples collected from General Electric, Spokane, Washington, has been completed. Twenty-two water samples were analyzed at low detection limits for polychlorinated biphenyl compounds (PCBs) and ten water samples were screened for chlorinated benzenes by Washington State Department of Ecology Manchester Environmental Laboratory of Manchester, Washington. The samples were numbered:

Laboratory Number	E & E Station ID	Laboratory Number	E & E Station ID
91028230	MW-01	91028241	MW-11 Dup.
91028231	MW-02	91028242	MW-10
91028232	MW-03	91028243	MW-11
91028233	MW-04	91028244	MW-12
91028234	MW-05	91028245	MW-13
91028235	MW-06	91028246	MW-14
91028236	MW-07A	91028247	MW-15
91028237	MW-08	91028248	MW-16
91028238	MW-09U	91028249	MW-17
91028239	MW-08 Dup.	91028250	FB
91028240	MW-09L	91028251	TB

Dup. - Duplicate

WB8050.2.0

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Sample 91028247 underwent matrix spike (MS) and matrix spike duplicate (MSD) analysis for PCBs. An MS/MSD analysis was not performed for chlorinated benzenes, as it was a screening analysis.

Data Qualifications

The following comments refer to the laboratory performance in meeting the Quality Control (QC) specifications for the PCB analysis outlined in the Manchester Environmental Laboratory's "Water Extraction Standard Operating Procedures for Organics", and "Standard Operating Procedures for the Instrumental Analysis of Pesticides and PCBs by Gas Chromatography" as modified in the memorandum titled "Modifications to Manchester Environmental Laboratory Standard Operating Procedures and Deliverable Requirements for General Electric Spokane PCB Analysis of Groundwater Samples", dated September 21, 1990, and USEPA Method 612 (40CFR Part 136, October 26, 1984) for the chlorinated benzene screening, following USEPA Hazardous site Evaluation Division Laboratory Data Validation Functional Guidelines for Evaluating Organics Analysis (February 1, 1988).

1) Timeliness

Sample Number	Sample Date	Rec'd Date	Extr. Date	PCB Anal.	CB Anal.
91028230	01/10/91	01/11/91	01/16/91	01/24/91	N/A
91028231	01/11/91	01/14/91	01/16/91	01/24/91	N/A
91028232	01/10/91	01/11/91	01/16/91	01/24/91	N/A
91028233	01/13/91	01/15/91	01/16/91	01/24/91	01/29/91
91028234	01/11/91	01/14/91	01/16/91	01/24/91	01/29/91
91028235	01/12/91	01/14/91	01/16/91	01/24/91	N/A
91028236	01/13/91	01/15/91	01/16/91	01/24/91	N/A
91028237	01/12/91	01/14/91	01/16/91	01/25/91	01/31/91
91028238	01/15/91	01/16/91	01/18/91	01/25/91	N/A
91028239	01/12/91	01/14/91	01/16/91	01/25/91	01/31/91
91028240	01/15/91	01/16/91	01/18/91	01/25/91	N/A
91028241	01/13/91	01/15/91	01/16/91	01/25/91	01/31/91
91028242	01/14/91	01/16/91	01/18/91	01/25/91	01/29/91
91028243	01/13/91	01/16/91	01/18/91	01/25/91	02/01/91
91028244	01/16/91	01/17/91	01/18/91	01/25/91	N/A
91028245	01/17/91	01/18/91	01/22/91	01/29/91	N/A
91028246	01/16/91	01/18/91	01/22/91	01/29/91	N/A
91028247	01/16/91	01/17/91	01/18/91	01/25/91	02/01/91
91028248	01/17/91	01/18/91	01/22/91	01/29/91	N/A
91028249	01/17/91	01/18/91	01/22/91	01/29/91	N/A
91028250	01/13/91	01/15/91	01/16/91	01/25/91	02/01/91
91028251	01/08/91	01/18/91	01/22/91	01/29/91	02/01/91

Rec'd - Received; CB - Chlorinated Benzene; Anal. - Analysis Date; Extr. - Extraction Date; N/A - Not Applicable

All samples met holding time criteria for PCBs and chlorinated benzenes except:

Sample Number	Fraction	Sampling Date	Extraction Date	Time Elapsed	QC Criteria
91028251	PCBs	01/08/91	01/22/91	14 days	7 days
91028251	CB	01/08/91	01/22/91	14 days	7 days

CB - Chlorinated Benzene

No action was taken since sample 91028251 was a transport blank.

2) Initial Calibration

An initial five-point calibration was performed for Aroclor 1248, and an initial seven-point calibration was performed for Aroclors 1221, 1242, 1254, and 1260 for each of two dissimilar columns, DB-608 and DB-5. The percent relative standard deviation (%RSD) for each Aroclor on both columns in the initial calibration was less than 15 percent, except for Aroclor 1242 on the DB-608 column. No action was taken, as Aroclor 1242 was not detected in any sample.

A three-point initial calibration was performed for chlorinated benzene analysis on two dissimilar columns, DB-5 and DB-1701. The %RSD was less than 30 percent for each chlorinated benzene identified in the samples.

3) Continuing Calibrations

Continuing calibration checks were performed at mid-range levels at the beginning and end of each analytical sequence or every 12 hours, whichever was more frequent. The continuing calibration checks were performed for two Aroclors (1242 and 1260) and for every other Aroclor identified and quantitated during the sequence, except for samples 91028233 and 91028234. No continuing calibration check for Aroclor 1254 was performed during the analytical sequence which included samples 91028233 and 91028234. Since Aroclor 1254 was identified in both of these samples, the positive results for Aroclor 1254 in samples 91028233 (MW-04) and 91028234 (MW-05) were flagged as estimated (J).

The calibration factors for the continuing calibration checks were within the QC limits of 15 percent difference (%D) when compared with the average calibration factors from the initial calibration for each Aroclor identified and quantitated during the corresponding scheme, except:

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Date	Time	Standard	%D	Associated Samples
01/29/91	1613	Aroclor 1260	16.3	*

* Samples 91028237 (MW-08), 91028239 (MW-08 Dup.), 91028245 (MW-13), 91028246 (MW-14), 91028248 (MW-16), 91028249 (MW-17), and 91028251 (TB).

All positive results for Aroclor 1260 in the associated samples were flagged as estimated (J).

4) Quantitation Limits

The method quantitation limit (MQL) for all Aroclors was 0.02 µg/L. The lowest standard analyzed in the initial calibration for each Aroclor, except for Aroclor 1248, was 0.02 µg/L. The lowest standard analyzed in the initial calibration for Aroclor 1248 was 0.05 µg/L.

MQLs for chlorinated benzenes ranged from 0.004 to 0.090 µg/L, depending on the individual compound.

5) Blanks

Frequency criteria were met for laboratory blank analysis.

No PCBs or chlorinated benzenes were detected in any of the laboratory blanks.

6) Surrogate Recovery

The compounds 4,4'-dibromooctachlorobiphenyl (DBOB), dibutyl-chlorendate (DBC), decachlorobiphenyl (DCB), and octachloronaphthalene (OCN) were used as surrogates for PCB and chlorinated benzene analysis. Surrogate spike recoveries were calculated based upon a daily one-point calibration of the surrogate spike mix. Surrogate percent recoveries (%R) were within QC criteria, except:

Sample Number	Fraction	Compound	%R	QC Limits
91028248	PCB	DBC	69	75-125
		OCN	73	75-125
		DCB	69	75-125
91028250	PCB	DCB	70	75-125
91028250	CB	DCB	72	75-125
91028251	CB	DCB	70	75-125

Positive results and quantitation limits for PCBs in sample 91028248 (MW-16) were flagged as estimated (UJ or J).

No action was taken based on one surrogate QC outlier in samples 91028250 (FB) and 91028251 (TB).

7) Matrix Spike and Matrix Spike Duplicate

A mixture of Aroclors 1242 and 1260 was used as a matrix spike solution with a final concentration of 0.10 µg/L.

All MS and MSD Percent Recoveries (%Rs) met advisory QC guidelines of 50 to 150 percent for PCB analysis.

All RPD values for the MS and MSD were within QC guidelines of less than or equal to 25 percent for PCB analysis.

No MS or MSD analyses were performed for chlorinated benzene analysis.

8) Identification and Quantitation

Identification of PCBs was based on retention times and relative peak intensities as compared to Aroclor standards. Two dissimilar analytical columns (DB-5 and DB-608), as described in the analytical methodology, were used to identify, confirm, and quantitate the Aroclors.

Aroclors detected in a sample were quantitated on both columns based on the calibration curves generated in the initial calibration. The average value of both columns was reported by the laboratory.

Identification of chlorinated benzenes was based on retention times as compared to known standards on two dissimilar analytical columns

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(DB-1701 and DB-5). Samples were chosen for chlorinated benzene screening based on the presence of peak patterns observed during the PCB analysis.

9) Laboratory Contact

The laboratory was contacted on March 22, 1991 (see attached Telephone Record Log).

Data Use

The usefulness of the data is based on the criteria outlined in the USEPA Hazardous Site Evaluation Division, "Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses" (February 1, 1988) and the USEPA Region 10 Standard Operating Guidance, "Regional Protocol for Organic Sample Holding Times", (December 7, 1990).

Upon consideration of the data qualifications noted above, the data are ACCEPTABLE for use except where flagged with data qualifiers which modify the usefulness of the individual values.

Data Qualifiers

U - The material was analyzed for, but was not detected. The associated numerical value is a contractual quantitation limit, adjusted for sample weight/sample volume, extraction volume, percent solids and sample dilution.

J - The analyte was analyzed for and was positively identified, but the associated numerical value may not be consistent with the amount actually present in the environmental sample. The data should be seriously considered for decision-making and are usable for many purposes.

UJ - The material was analyzed for, but was not detected. The associated numerical value is an estimated/adjusted quantitation limit. The associated numerical value may not accurately or precisely represent the concentration necessary to detect the analyte in this sample.

R - Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.

N - Presumptive evidence of presence of material (tentative identification). Confirmation of the analyte requires further analysis.

NJ - The analysis indicates that the analyte is tentatively identified and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

M - Mass spectral criteria for positive identification were not met. However, in the opinion of the laboratory, the identification is correct based on the analyst's professional judgment.

X - The reported result may be a combination of indistinguishable isomers.

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In Reference to Case No(s):
GE SPOKANE

REGIONAL/LABORATORY COMMUNICATION SYSTEM

Telephone Record Log

Date of Call: 22 MARCH 1991

Laboratory Name: MANCHESTER

Lab Contact: BOB REICK / ROBERT CARRELL

Region: X

Regional Contact: DAVID AKIO IKEDA

Call Initiated By: _____ Laboratory _____ Region

In reference to data for the following sample number(s):
ALL, SAMPLE 91028230 THROUGH 91028251

Summary of Questions/Issues Discussed:
1. NO RAW DATA FOR CHLORINATED BENZENE
2. NO RAW DATA FOR A1254 INITIAL CALIBRATION
3. WHAT PEAKS WERE USED TO QUANTITATE AROCLOR 1254 AND 1260 WHEN BOTH ARE DETECTED IN THE SAME SAMPLE

Summary of Resolution:
1. WILL SEND
2. WILL SEND
3. A1254 - ~~1 AND 2~~ PEAKS 1 AND 2
A1260 - LAST FOUR PEAKS.

David A Ikeda
Signature

4 APRIL 1991
Date

Distribution: (1)Lab Copy, (2)Region Copy, (3)SAIC Copy

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*** Lab Analysis Report ***

Transaction #: 02111654 Seq #: 01 (74) PCB Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028230 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: 910116 Date Analyzed: 910124 # Days to Ext/Anal: 6/ 8

Line	Par #	Parameter Description	Units	Value
1	12674112	PCB - 1016	ug/l	0.023U
2	11104282	PCB - 1221	ug/l	0.023U
3	11141165	pcb - 1232	ug/l	0.023U
4	53469219	PCB - 1242	ug/l	0.023U
5	12672296	PCB - 1248	ug/l	0.023U
6	11097691	PCB - 1254	ug/l	0.023U
7	11096825	PCB - 1260	ug/l	0.023U

4/2/91

*** Lab Analysis Report ***

Transaction #: 02111654 Seq #: 02 (74) PCB Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028231 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: 910116 Date Analyzed: 910124 # Days to Ext/Anal: 5/ 8

Line	Par #	Parameter Description	Units	Value
1	12674112	PCB - 1016	ug/l	0.021U
2	11104282	PCB - 1221	ug/l	0.021U
3	11141165	pcb - 1232	ug/l	0.021U
4	53469219	PCB - 1242	ug/l	0.021U
5	12672296	PCB - 1248	ug/l	0.021U
6	11097691	PCB - 1254	ug/l	0.021U
7	11096825	PCB - 1260	ug/l	0.021U

4/2/91

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*** Lab Analysis Report ***

Transaction #: 02111654 Seq #: 03 (74) PCB Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028232 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: 910116 Date Analyzed: 910124 # Days to Ext/Anal: 6/ 8

Line	Par #	Parameter Description	Units	Value
1	12674112	PCB - 1016	ug/l	0.022U
2	11104282	PCB - 1221	ug/l	0.022U
3	11141165	pcb - 1232	ug/l	0.022U
4	53469219	PCB - 1242	ug/l	0.022U
5	12672296	PCB - 1248	ug/l	0.022U
6	11097691	PCB - 1254	ug/l	0.022U
7	11096825	PCB - 1260	ug/l	0.022U

4/2/91

*** Lab Analysis Report ***

Transaction #: 02111654 Seq #: 04 (74) PCB Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028233 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: 910116 Date Analyzed: 910124 # Days to Ext/Anal: 3/ 8

Line	Par #	Parameter Description	Units	Value
1	12674112	PCB - 1016	ug/l	0.021U
2	11104282	PCB - 1221	ug/l	0.021U
3	11141165	pcb - 1232	ug/l	0.021U
4	53469219	PCB - 1242	ug/l	0.021U
5	12672296	PCB - 1248	ug/l	0.021U
6	11097691	PCB - 1254	ug/l	0.085 J
7	11096825	PCB - 1260	ug/l	0.021U

4/2/91

Transaction #: 02111654 Seq #: 05 (74) PCB Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028234 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: 910116 Date Analyzed: 910124 # Days to Ext/Anal: 5/ 8

Line	Par #	Parameter Description	Units	Value
1	12674112	PCB - 1016	ug/l	0.020U
2	11104282	PCB - 1221	ug/l	0.020U
3	11141165	pcb - 1232	ug/l	0.020U
4	53469219	PCB - 1242	ug/l	0.020U
5	12672296	PCB - 1248	ug/l	0.020U
6	11097691	PCB - 1254	ug/l	2.4 J
7	11096825	PCB - 1260	ug/l	0.42

4/2/91

*** Lab Analysis Report ***

Transaction #: 02111654 Seq #: 06 (74) PCB Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028235 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: 910116 Date Analyzed: 910124 # Days to Ext/Anal: 4/ 8

Line	Par #	Parameter Description	Units	Value
1	12674112	PCB - 1016	ug/l	0.021U
2	11104282	PCB - 1221	ug/l	0.021U
3	11141165	pcb - 1232	ug/l	0.021U
4	53469219	PCB - 1242	ug/l	0.021U
5	12672296	PCB - 1248	ug/l	0.021U
6	11097691	PCB - 1254	ug/l	0.021U
7	11096825	PCB - 1260	ug/l	0.021U

4/2/91

*** Lab Analysis Report ***

Transaction #: 02111654 Seq #: 07 (74) PCB Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028236 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: 910116 Date Analyzed: 910124 # Days to Ext/Anal: 3/ 8

Line	Par #	Parameter Description	Units	Value
1	12674112	PCB - 1016	ug/l	0.022U
2	11104282	PCB - 1221	ug/l	0.022U
3	11141165	pcb - 1232	ug/l	0.022U
4	53469219	PCB - 1242	ug/l	0.022U
5	12672296	PCB - 1248	ug/l	0.022U
6	11097691	PCB - 1254	ug/l	0.022U
7	11096825	PCB - 1260	ug/l	0.022U

*** Lab Analysis Report ***

Transaction #: 02111654 Seq #: 08 (74) PCB Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028237 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds: ____
QA Code: ( ) Unspecifed Peaks Total: ____
Date Extracted: 910116 Date Analyzed: 910125 # Days to Ext/Anal: 47 9

Line	Par #	Parameter Description	Units	Value
1	12674112	PCB - 1016	ug/l	0.21U
2	11104282	PCB - 1221	ug/l	0.21U
3	11141165	pcb - 1232	ug/l	0.21U
4	53469219	PCB - 1242	ug/l	0.21U
5	12672296	PCB - 1248	ug/l	0.21U
6	11097691	PCB - 1254	ug/l	0.21U
7	11096825	PCB - 1260	ug/l	6.54J

4/2/91

*** Lab Analysis Report ***

Transaction #: 02111705 Seq #: 01 (74) PCB Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028238 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: 910118 Date Analyzed: 910125 # Days to Ext/Anal: 3/ 7

Line	Par #	Parameter Description	Units	Value
1	12674112	PCB - 1016	ug/l	0.020U
2	11104282	PCB - 1221	ug/l	0.020U
3	11141165	pcb - 1232	ug/l	0.020U
4	53469219	PCB - 1242	ug/l	0.020U
5	12672296	PCB - 1248	ug/l	0.020U
6	11097691	PCB - 1254	ug/l	0.020U
7	11096825	PCB - 1260	ug/l	0.020U

4/2/91

*** Lab Analysis Report ***

Transaction #: 02111654 Seq #: 09 (74) PCB Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028239 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: 910116 Date Analyzed: 910125 # Days to Ext/Anal: 4/ 9

Line	Par #	Parameter Description	Units	Value
1	12674112	PCB - 1016	ug/l	0.21U
2	11104282	PCB - 1221	ug/l	0.21U
3	11141165	pcb - 1232	ug/l	0.21U
4	53469219	PCB - 1242	ug/l	0.21U
5	12672296	PCB - 1248	ug/l	0.21U
6	11097691	PCB - 1254	ug/l	0.21U
7	11096825	PCB - 1260	ug/l	6.01 J

4/2/91

*** Lab Analysis Report ***

Transaction #: 02111705 Seq #: 02 (74) PCB Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028240 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: 910118 Date Analyzed: 910125 # Days to Ext/Anal: 3/ 7

Line	Par #	Parameter Description	Units	Value
1	12674112	PCB - 1016	ug/l	0.021U
2	11104282	PCB - 1221	ug/l	0.021U
3	11141165	pcb - 1232	ug/l	0.021U
4	53469219	PCB - 1242	ug/l	0.021U
5	12672296	PCB - 1248	ug/l	0.021U
6	11097691	PCB - 1254	ug/l	0.021U
7	11096825	PCB - 1260	ug/l	0.021U

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*** Lab Analysis Report ***

Transaction #: 02111654 Seq #: 10 (74) PCB Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028241 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: 910116 Date Analyzed: 910125 # Days to Ext/Anal: 3/ 9

Line	Par #	Parameter Description	Units	Value
1	12674112	PCB - 1016	ug/l	0.021U
2	11104282	PCB - 1221	ug/l	0.021U
3	11141165	pcb - 1232	ug/l	0.021U
4	53469219	PCB - 1242	ug/l	0.021U
5	12672296	PCB - 1248	ug/l	0.021U
6	11097691	PCB - 1254	ug/l	0.28
7	11096825	PCB - 1260	ug/l	0.11

4/2/91

*** Lab Analysis Report ***

Transaction #: 02111705 Seq #: 03 (74) PCB Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028242 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: 910118 Date Analyzed: 910125 # Days to Ext/Anal: 4/ 7

Line	Par #	Parameter Description	Units	Value
1	12674112	PCB - 1016	ug/l	0.021U
2	11104282	PCB - 1221	ug/l	0.021U
3	11141165	pcb - 1232	ug/l	0.021U
4	53469219	PCB - 1242	ug/l	0.021U
5	12672296	PCB - 1248	ug/l	0.021U
6	11097691	PCB - 1254	ug/l	0.021U
7	11096825	PCB - 1260	ug/l	0.021U

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*** Lab Analysis Report ***

Transaction #: 02111705 Seq #: 04 (74) PCB Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028243 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: 910118 Date Analyzed: 910125 # Days to Ext/Anal: 5/ 7

Line	Par #	Parameter Description	Units	Value
1	12674112	PCB - 1016	ug/l	0.020U
2	11104282	PCB - 1221	ug/l	0.020U
3	11141165	pcb - 1232	ug/l	0.020U
4	53469219	PCB - 1242	ug/l	0.020U
5	12672296	PCB - 1248	ug/l	0.020U
6	11097691	PCB - 1254	ug/l	0.32
7	11096825	PCB - 1260	ug/l	0.12

4/2/91

*** Lab Analysis Report ***

Transaction #: 02111705 Seq #: 05 (74) PCB Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028244 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: 910118 Date Analyzed: 910125 # Days to Ext/Anal: 2/ 7

Line	Par #	Parameter Description	Units	Value
1	12674112	PCB - 1016	ug/l	0.022U
2	11104282	PCB - 1221	ug/l	0.022U
3	11141165	pcb - 1232	ug/l	0.022U
4	53469219	PCB - 1242	ug/l	0.022U
5	12672296	PCB - 1248	ug/l	0.022U
6	11097691	PCB - 1254	ug/l	0.022U
7	11096825	PCB - 1260	ug/l	0.022U

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*** Lab Analysis Report ***

Transaction #: 02111713 Seq #: 01 (74) PCB Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028245 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: 910122 Date Analyzed: 910129 # Days to Ext/Anal: 5/ 7

Line	Par #	Parameter Description	Units	Value
1	12674112	PCB - 1016	ug/l	0.021U
2	11104282	PCB - 1221	ug/l	0.021U
3	11141165	pcb - 1232	ug/l	0.021U
4	53469219	PCB - 1242	ug/l	0.021U
5	12672296	PCB - 1248	ug/l	0.021U
6	11097691	PCB - 1254	ug/l	0.021U
7	11096825	PCB - 1260	ug/l	0.021U

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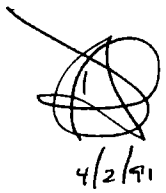
*** Lab Analysis Report ***

Transaction #: 02111713 Seq #: 02 (74) PCB Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028246 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: 910122 Date Analyzed: 910129 # Days to Ext/Anal: 6/ 7

Line	Par #	Parameter Description	Units	Value
1	12674112	PCB - 1016	ug/l	0.021U
2	11104282	PCB - 1221	ug/l	0.021U
3	11141165	pcb - 1232	ug/l	0.021U
4	53469219	PCB - 1242	ug/l	0.021U
5	12672296	PCB - 1248	ug/l	0.021U
6	11097691	PCB - 1254	ug/l	0.021U
7	11096825	PCB - 1260	ug/l	0.021U



*** Lab Analysis Report ***

Transaction #: 02111705 Seq #: 06 (74) PCB Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028247 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: 910118 Date Analyzed: 910125 # Days to Ext/Anal: 2/ 7

Line	Par #	Parameter Description	Units	Value
1	12674112	PCB - 1016	ug/l	0.021U
2	11104282	PCB - 1221	ug/l	0.021U
3	11141165	pcb - 1232	ug/l	0.021U
4	53469219	PCB - 1242	ug/l	0.021U
5	12672296	PCB - 1248	ug/l	0.021U
6	11097691	PCB - 1254	ug/l	0.021U
7	11096825	PCB - 1260	ug/l	0.021U

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Transaction #: 02111713 Seq #: 03 (74) PCB Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028248 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: 910122 Date Analyzed: 910129 # Days to Ext/Anal: 5/ 7

Line	Par #	Parameter Description	Units	Value
1	12674112	PCB - 1016	ug/l	0.021U J
2	11104282	PCB - 1221	ug/l	0.021U J
3	11141165	pcb - 1232	ug/l	0.021U J
4	53469219	PCB - 1242	ug/l	0.021U J
5	12672296	PCB - 1248	ug/l	0.021U J
6	11097691	PCB - 1254	ug/l	0.021U J
7	11096825	PCB - 1260	ug/l	0.021U J

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*** Lab Analysis Report ***

Transaction #: 02111713 Seq #: 04 (74) PCB Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028249 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: 910122 Date Analyzed: 910129 # Days to Ext/Anal: 5/ 7

Line	Par #	Parameter Description	Units	Value
1	12674112	PCB - 1016	ug/l	0.021U
2	11104282	PCB - 1221	ug/l	0.021U
3	11141165	pcb - 1232	ug/l	0.021U
4	53469219	PCB - 1242	ug/l	0.021U
5	12672296	PCB - 1248	ug/l	0.021U
6	11097691	PCB - 1254	ug/l	0.021U
7	11096825	PCB - 1260	ug/l	0.021U

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*** Lab Analysis Report ***

Transaction #: 02111654 Seq #: 11 (74) PCB Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028250 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: 910116 Date Analyzed: 910125 # Days to Ext/Anal: 3/ 9

Line	Par #	Parameter Description	Units	Value
1	12674112	PCB - 1016	ug/l	0.022U
2	11104282	PCB - 1221	ug/l	0.022U
3	11141165	pcb - 1232	ug/l	0.022U
4	53469219	PCB - 1242	ug/l	0.022U
5	12672296	PCB - 1248	ug/l	0.022U
6	11097691	PCB - 1254	ug/l	0.022U
7	11096825	PCB - 1260	ug/l	0.022U

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*** Lab Analysis Report ***

Transaction #: 02111713 Seq #: 05 (74) PCB Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028251 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: 910122 Date Analyzed: 910129 # Days to Ext/Anal: 14/ 7

Line	Par #	Parameter Description	Units	Value
1	12674112	PCB - 1016	ug/l	0.022U
2	11104282	PCB - 1221	ug/l	0.022U
3	11141165	pcb - 1232	ug/l	0.022U
4	53469219	PCB - 1242	ug/l	0.022U
5	12672296	PCB - 1248	ug/l	0.022U
6	11097691	PCB - 1254	ug/l	0.022U
7	11096825	PCB - 1260	ug/l	0.022U

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*** Lab Analysis Report ***

Transaction #: 02120721 Seq #: 01 (72) Pesticide Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028233 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: 910116 Date Analyzed: 910129 # Days to Ext/Anal: 3/ 13

Line	Par #	Parameter Description	Units	Value *
1	95501	1,2-Dichlorobenzene	ug/l	0.10U
2	541731	1,3-Dichlorobenzene	ug/l	0.10U
3	106467	1,4-Dichlorobenzene	ug/l	0.10U
4	118741	Hexachlorobenzene	ug/l	0.005U
5	95943	1,2,4,5-Tetrachlorobenzene	ug/l	0.005
6	643662	1,2,3,4-Tetrachlorobenzene	ug/l	0.24
7	634902	1,2,3,5-TETRACHLOROBENZENE	ug/l	0.013
8	120821	1,2,4-Trichlorobenzene	ug/l	0.005U
9	108703	1,3,5-Trichlorobenzene	ug/l	0.005U
10	87616	1,2,3-Trichlorobenzene	ug/l	0.005U
11	608935	Pentachlorobenzene	ug/l	0.17

* THESE DATA RESULTS ARE DERIVED FROM SCREENING ANALYSIS ONLY. ALL RESULTS SHOULD BE CONSIDERED AS TENTITIVELY IDENTIFIED AT ESTIMATED CONCENTRATIONS.

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*** Lab Analysis Report ***

Transaction #: 02120721 Seq #: 02 (72) Pesticide Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028234 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds: ____
QA Code: ( ) Unspecifed Peaks Total: ____
Date Extracted: 910116 Date Analyzed: 910129 # Days to Ext/Anal: 5/ 13

Line	Par #	Parameter Description	Units	Value *
1	95501	1,2-Dichlorobenzene	ug/l	0.96U
2	541731	1,3-Dichlorobenzene	ug/l	0.96U
3	106467	1,4-Dichlorobenzene	ug/l	0.96U
4	118741	Hexachlorobenzene	ug/l	0.048U
5	95943	1,2,4,5-Tetrachlorobenzene	ug/l	0.068
6	643662	1,2,3,4-Tetrachlorobenzene	ug/l	2.3
7	634902	1,2,3,5-TETRACHLOROBENZENE	ug/l	0.13
8	120821	1,2,4-Trichlorobenzene	ug/l	0.048U
9	108703	1,3,5-Trichlorobenzene	ug/l	0.048U
10	87616	1,2,3-Trichlorobenzene	ug/l	0.048U
11	608935	Pentachlorobenzene	ug/l	1.9

* THESE DATA RESULTS ARE DERIVED FROM SCREENING ANALYSIS ONLY. ALL RESULTS SHOULD BE CONSIDERED AS TENTATIVELY IDENTIFIED AT ESTIMATED CONCENTRATIONS.

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*** Lab Analysis Report ***

Transaction #: 02120721 Seq #: 03 (72) Pesticide Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028237 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: 910116 Date Analyzed: 910131 # Days to Ext/Anal: 4/ 15

Line	Par #	Parameter Description	Units	Value *
1	95501	1,2-Dichlorobenzene	ug/l	0.10U
2	541731	1,3-Dichlorobenzene	ug/l	0.10U
3	106467	1,4-Dichlorobenzene	ug/l	0.10U
4	118741	Hexachlorobenzene	ug/l	0.014
5	95943	1,2,4,5-Tetrachlorobenzene	ug/l	0.005U
6	643662	1,2,3,4-Tetrachlorobenzene	ug/l	0.068
7	634902	1,2,3,5-TETRACHLOROBENZENE	ug/l	0.006
8	120821	1,2,4-Trichlorobenzene	ug/l	0.005U
9	108703	1,3,5-Trichlorobenzene	ug/l	0.005U
10	87616	1,2,3-Trichlorobenzene	ug/l	0.005U
11	608935	Pentachlorobenzene	ug/l	0.31
12				
13		* THESE DATA RESULTS ARE DERIVED FROM		
14		SCREENING ANALYSIS ONLY. ALL		
15		RESULTS SHOULD BE CONSIDERED AS		
		TENTITIVELY IDENTIFIED AT ESTIMATED		
		CONCENTRATIONS.		

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*** Lab Analysis Report ***

Transaction #: 02120721 Seq #: 04 (72) Pesticide Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028239 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds: ____
QA Code: ( ) Unspecifed Peaks Total: ____
Date Extracted: 910116 Date Analyzed: 910131 # Days to Ext/Anal: 4/ 15

Line	Par #	Parameter Description	Units	Value *
1	95501	1,2-Dichlorobenzene	ug/l	0.10U
2	541731	1,3-Dichlorobenzene	ug/l	0.10U
3	106467	1,4-Dichlorobenzene	ug/l	0.10U
4	118741	Hexachlorobenzene	ug/l	0.011
5	95943	1,2,4,5-Tetrachlorobenzene	ug/l	0.005U
6	643662	1,2,3,4-Tetrachlorobenzene	ug/l	0.052
7	634902	1,2,3,5-TETRACHLOROBENZENE	ug/l	0.005
8	120821	1,2,4-Trichlorobenzene	ug/l	0.005U
9	108703	1,3,5-Trichlorobenzene	ug/l	0.005U
10	87616	1,2,3-Trichlorobenzene	ug/l	0.005U
11	608935	Pentachlorobenzene	ug/l	0.32

* THESE DATA RESULTS ARE DERIVED FROM SCREENING ANALYSIS ONLY. ALL RESULTS SHOULD BE CONSIDERED AS TENTITIVELY IDENTIFIED AT ESTIMATED CONCENTRATIONS.

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*** Lab Analysis Report ***

Transaction #: 02120721 Seq #: 05 (72) Pesticide Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028241 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: 910116 Date Analyzed: 910131 # Days to Ext/Anal: 3/ 15

Line	Par #	Parameter Description	Units	Value *
1	95501	1,2-Dichlorobenzene	ug/l	0.10U
2	541731	1,3-Dichlorobenzene	ug/l	0.10U
3	106467	1,4-Dichlorobenzene	ug/l	0.10U
4	118741	Hexachlorobenzene	ug/l	0.005U
5	95943	1,2,4,5-Tetrachlorobenzene	ug/l	0.024
6	643662	1,2,3,4-Tetrachlorobenzene	ug/l	0.43
7	634902	1,2,3,5-TETRACHLOROBENZENE	ug/l	0.016
8	120821	1,2,4-Trichlorobenzene	ug/l	0.005U
9	108703	1,3,5-Trichlorobenzene	ug/l	0.005U
10	87616	1,2,3-Trichlorobenzene	ug/l	0.011
11	608935	Pentachlorobenzene	ug/l	0.16

* THESE DATA RESULTS ARE DERIVED FROM SCREENING ANALYSIS ONLY. ALL RESULTS SHOULD BE CONSIDERED AS TENTITIVELY IDENTIFIED AT ESTIMATED CONCENTRATIONS

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*** Lab Analysis Report ***

Transaction #: 02120721 Seq #: 06 (72) Pesticide Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028242 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: 910118 Date Analyzed: 910129 # Days to Ext/Anal: 4/ 11

Line	Par #	Parameter Description	Units	Value *
1	95501	1,2-Dichlorobenzene	ug/l	0.10U
2	541731	1,3-Dichlorobenzene	ug/l	0.10U
3	106467	1,4-Dichlorobenzene	ug/l	0.10U
4	118741	Hexachlorobenzene	ug/l	0.005U
5	95943	1,2,4,5-Tetrachlorobenzene	ug/l	0.005U
6	643662	1,2,3,4-Tetrachlorobenzene	ug/l	0.009
7	634902	1,2,3,5-TETRACHLOROBENZENE	ug/l	0.005U
8	120821	1,2,4-Trichlorobenzene	ug/l	0.005U
9	108703	1,3,5-Trichlorobenzene	ug/l	0.005U
10	87616	1,2,3-Trichlorobenzene	ug/l	0.005U
11	608935	Pentachlorobenzene	ug/l	0.005

* THESE DATA RESULTS ARE DERIVED FROM SCREENING ANALYSIS ONLY. ALL RESULTS SHOULD BE CONSIDERED AS TENTATIVELY IDENTIFIED AT ESTIMATED CONCENTRATIONS.

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*** Lab Analysis Report ***

Transaction #: 02120721 Seq #: 07 (72) Pesticide Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028243 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: 910118 Date Analyzed: 910201 # Days to Ext/Anal: 5/ 14

Line	Par #	Parameter Description	Units	Value*
1	95501	1,2-Dichlorobenzene	ug/l	0.10U
2	541731	1,3-Dichlorobenzene	ug/l	0.10U
3	106467	1,4-Dichlorobenzene	ug/l	0.10U
4	118741	Hexachlorobenzene	ug/l	0.005U
5	95943	1,2,4,5-Tetrachlorobenzene	ug/l	0.020
6	643662	1,2,3,4-Tetrachlorobenzene	ug/l	0.14
7	634902	1,2,3,5-TETRACHLOROBENZENE	ug/l	0.014
8	120821	1,2,4-Trichlorobenzene	ug/l	0.005U
9	108703	1,3,5-Trichlorobenzene	ug/l	0.005U
10	87616	1,2,3-Trichlorobenzene	ug/l	0.010
11	608935	Pentachlorobenzene	ug/l	0.14

* THESE DATA RESULTS ARE DERIVED FROM SCREENING ANALYSIS ONLY. ALL RESULTS SHOULD BE CONSIDERED AS TENTITIVELY IDENTIFIED AT ESTIMATED CONCENTRATIONS.

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*** Lab Analysis Report ***

Transaction #: 02120721 Seq #: 08 (72) Pesticide Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028247 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: 910118 Date Analyzed: 910201 # Days to Ext/Anal: 2/ 14

Line	Par #	Parameter Description	Units	Value*
1	95501	1,2-Dichlorobenzene	ug/l	0.10U
2	541731	1,3-Dichlorobenzene	ug/l	0.10U
3	106467	1,4-Dichlorobenzene	ug/l	0.10U
4	118741	Hexachlorobenzene	ug/l	0.005U
5	95943	1,2,4,5-Tetrachlorobenzene	ug/l	0.005U
6	643662	1,2,3,4-Tetrachlorobenzene	ug/l	0.005U
7	634902	1,2,3,5-TETRACHLOROBENZENE	ug/l	0.005U
8	120821	1,2,4-Trichlorobenzene	ug/l	0.005U
9	108703	1,3,5-Trichlorobenzene	ug/l	0.005U
10	87616	1,2,3-Trichlorobenzene	ug/l	0.005U
11	608935	Pentachlorobenzene	ug/l	0.005U

* THESE DATA RESULTS ARE DERIVED FROM SCREENING ANALYSIS ONLY. ALL RESULTS SHOULD BE CONSIDERED AS TENTITIVELY IDENTIFIED AT ESTIMATED CONCENTRATIONS.

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*** Lab Analysis Report ***

Transaction #: 02120721 Seq #: 09 (72) Pesticide Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028250 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: 910116 Date Analyzed: 910201 # Days to Ext/Anal: 3/ 16

Line	Par #	Parameter Description	Units	Value*
1	95501	1,2-Dichlorobenzene	ug/l	0.10U
2	541731	1,3-Dichlorobenzene	ug/l	0.10U
3	106467	1,4-Dichlorobenzene	ug/l	0.10U
4	118741	Hexachlorobenzene	ug/l	0.005U
5	95943	1,2,4,5-Tetrachlorobenzene	ug/l	0.005U
6	643662	1,2,3,4-Tetrachlorobenzene	ug/l	0.005U
7	634902	1,2,3,5-TETRACHLOROBENZENE	ug/l	0.005U
8	120821	1,2,4-Trichlorobenzene	ug/l	0.005U
9	108703	1,3,5-Trichlorobenzene	ug/l	0.005U
10	87616	1,2,3-Trichlorobenzene	ug/l	0.005U
11	608935	Pentachlorobenzene	ug/l	0.005U

* THESE DATA RESULTS ARE DERIVED FROM SCREENING ANALYSIS ONLY. ALL RESULTS SHOULD BE CONSIDERED AS TENTITIVELY IDENTIFIED AT ESTIMATED CONCENTRATIONS.

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*** Lab Analysis Report ***

Transaction #: 02120721 Seq #: 10 (72) Pesticide Scan
Proj Code : DOE-475C G.E. SPOKANE PE # : WB8040

Sample No.: 91 028251 Alternate Keys:

Samp Matrix: (10) Water-Total Units: (11) ug/l %Slds: ____
QA Code: ( ) Unspecifed Peaks Total: ____
Date Extracted: 910122 Date Analyzed: 910201 # Days to Ext/Anal: 14/ 10

Line	Par #	Parameter Description	Units	Value *
1	95501	1,2-Dichlorobenzene	ug/l	0.10U
2	541731	1,3-Dichlorobenzene	ug/l	0.10U
3	106467	1,4-Dichlorobenzene	ug/l	0.10U
4	118741	Hexachlorobenzene	ug/l	0.005U
5	95943	1,2,4,5-Tetrachlorobenzene	ug/l	0.005U
6	643662	1,2,3,4-Tetrachlorobenzene	ug/l	0.005U
7	634902	1,2,3,5-TETRACHLOROBENZENE	ug/l	0.005U
8	120821	1,2,4-Trichlorobenzene	ug/l	0.005U
9	108703	1,3,5-Trichlorobenzene	ug/l	0.005U
10	87616	1,2,3-Trichlorobenzene	ug/l	0.005U
11	608935	Pentachlorobenzene	ug/l	0.005U

* THESE DATA RESULTS ARE DERIVED FROM SCREENING ANALYSIS ONLY. ALL RESULTS SHOULD BE CONSIDERED AS TENTITIVELY IDENTIFIED AT ESTIMATED CONCENTRATIONS.

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